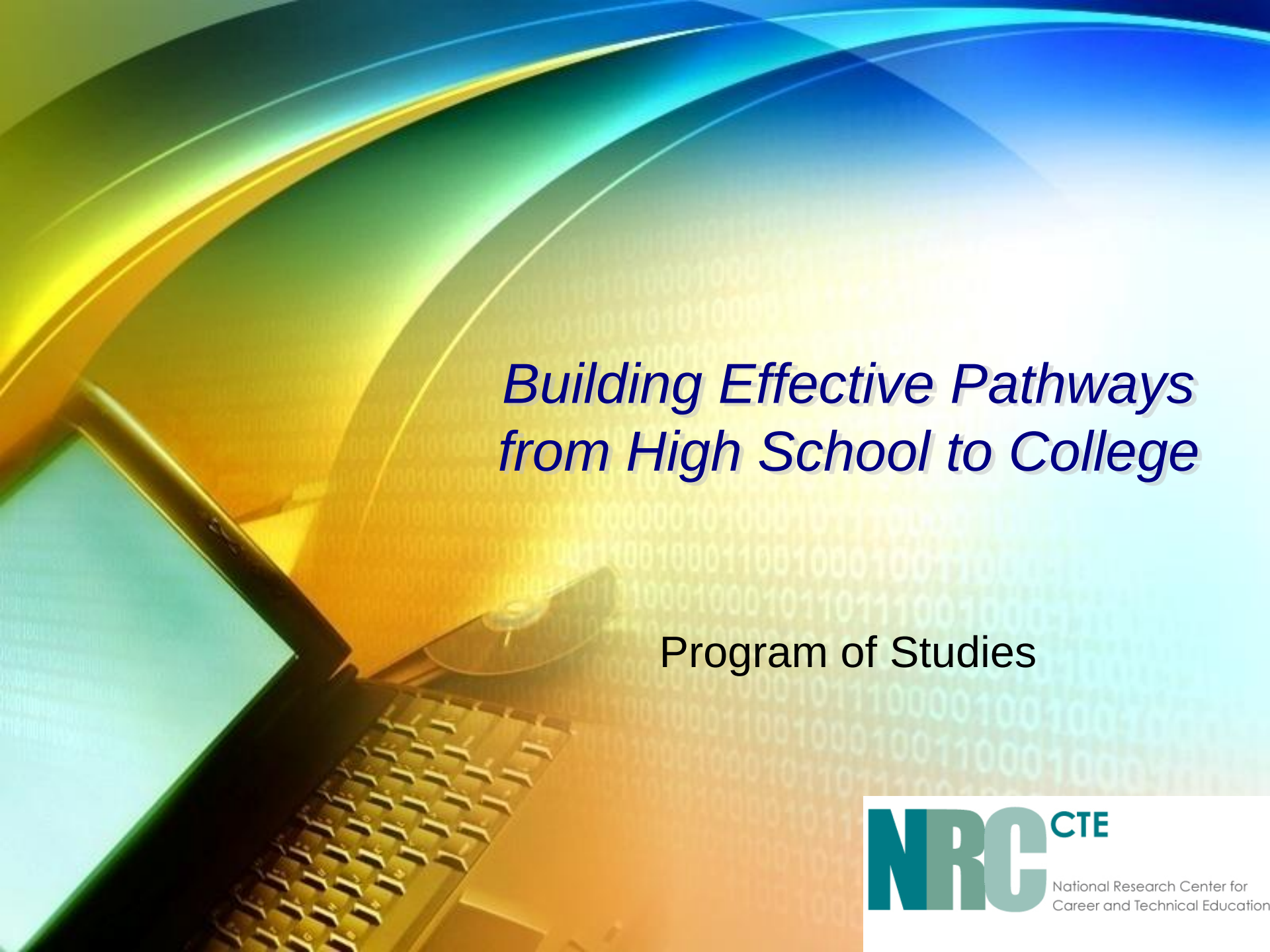


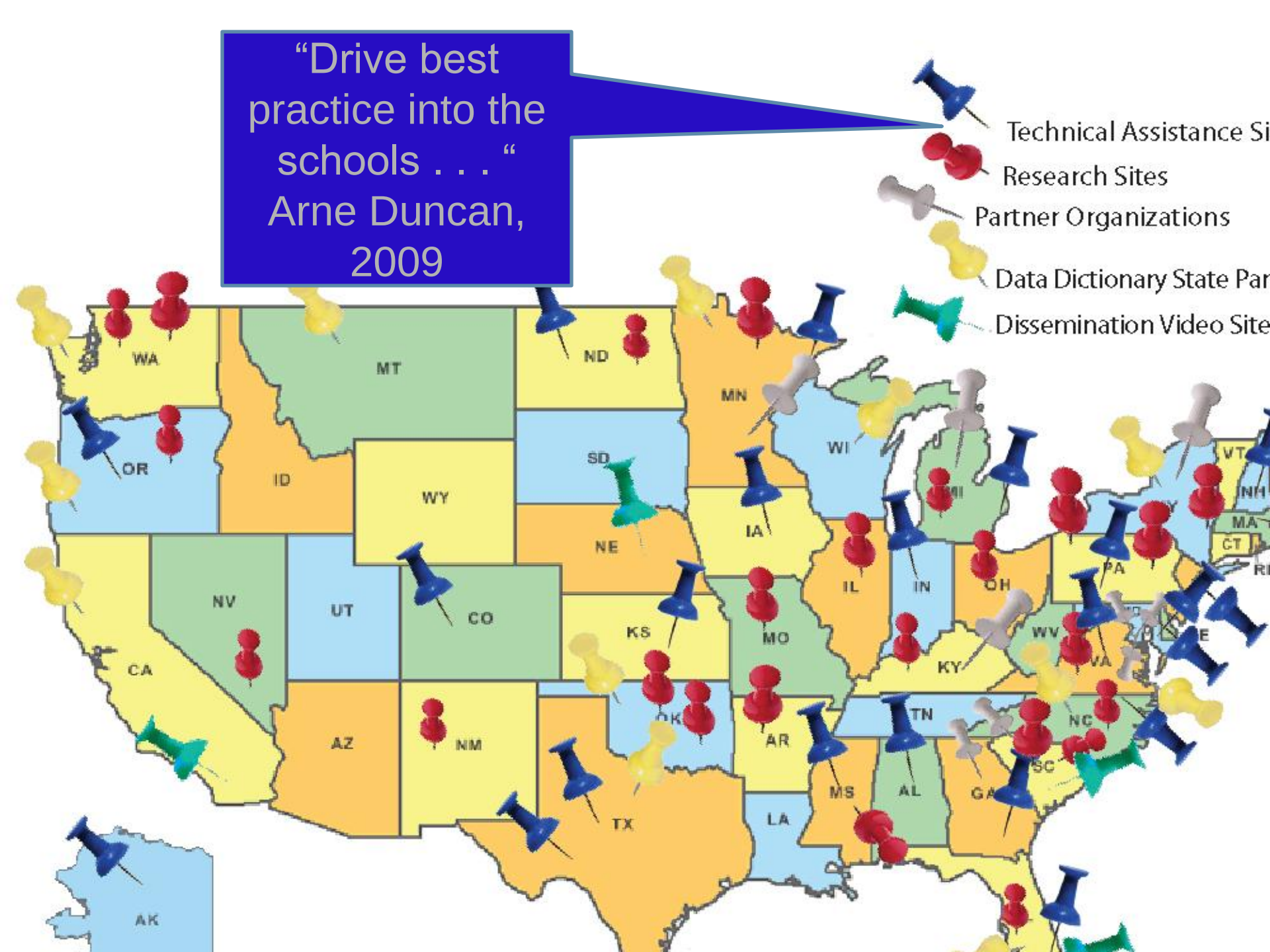
Building Effective Pathways from High School to College

Program of Studies

NRCCTE
National Research Center for Career and Technical Education

The Center Partners

Partner Organizations


"Drive best practice into the schools . . . "
Arne Duncan, 2009
Technical Assistance Si
Research Sites
Partner Organizations
Data Dictionary State Par
Dissemination Video Site
WA
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WV
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SC
NC
VA
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VT
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MA
CT

Recurring Issues

New (old) Issues

CONTEXT FOR PROGRAMS OF STUDY

It is getting worse

US Trails 22 Nations in HS Completion

The United States, once the world leader in high-school completion, now trails 22 other leading industrialized countries that have graduation rates higher than the American rate of 72 per cent, according to a report released last week by the Organization for Economic Cooperation and Development.

Chronicle of Higher Education (December 4, 2008)

Note: Graduate … r day school programs.
Source: U.S. D… ducation, National Center for Education Statistics.

Source: *One-Third of a Nation* (ETS, 2005)

NRCCTE
National Research Center for Career and Technical Education

The College & Career Dilemma

9th Grade Cohort	Benchmarks	Workforce Credentials
100 enter 9th grade*	70% complete HS[1]	30% enter as HS drop outs
70 complete HS	62% start college immediately[2]	25% enter as HS grad
43 Start college	47% drop out (31% with 0 credits)	19% enter with some college & a lot of debt
	57% complete within 6 years[3]	18-24% enter with college degree (6/4;3/2)

1. Greene et al, 2006
2. NCHEMS, 2009 (2006)
3. NCES, 2010

*An unknown number of pre-9th graders never make it to high school

WHAT IS COLLEGE AND CAREER READY?

Defining College & Career Ready

- Whatever skills needed to succeed in credit bearing CC courses (Tucker, NCEE)
- Being ready for college means that a high school graduate has the knowledge and skills necessary to qualify for and succeed in entry-level, credit-bearing college courses without the need for remedial coursework. (Achieve Inc)
- 4 years of math, English; 3 years of science & social science (College Board)
- Skills needed for living-wage, entry level jobs are same as skill needed to succeed in college (ADP)

Measuring College & Career Readiness

College Ready?

- Using traditional assumptions (i.e., preparation for 4-year college), only **32%** of HS graduates are *college ready* (Greene, 2003)
- **28%** of 4-year college entrants require remediation (NCES, 2007)
- **50%** of HS grads (who take the ACT exam) are *college ready* (ACT, 2005)

Career Ready (the academic side)?

- ACT *Work Readiness Assessment* (based on O'Net data) measures:
  - Reading for information
  - Locating information
  - Applied math

Another perspective

- No support … that those not going to college need to be qualified to enter college credit courses in order to enter the workforce.
- Becoming qualified for college-level classes or for entering a job directly out of high school is not the sole purpose of a high school education, e.g. preparing citizens to participate in a democracy.

Barton, P (ETS, 2006)

O'NET → WorkKeys

ONET Title

Electronic Tech

Applied Assessment

Level 5 math:

- Decide info needed
- Look up formula and perform single step conversations
- Calculate used mixed units
- Divide negative numbers
- Use one and two step calculations
- Calculate perimeters and areas of basic shapes
- Calculate % discounts

One measure of career readiness?

- 94% of workers reported using math on the job, but, only[1]
  - 22% reported math “higher” than basic
  - 19% reported using “Algebra 1”
  - 9% reported using “Algebra 2”
- Among upper level white collar workers[1]
  - 30% reported using math up to Algebra 1
  - 14% reported using math up to Algebra 2
- Less than 5% of workers make extensive use of Algebra 2, Trigonometry, Calculus, or Geometry on the job[2]

1. M. J. Handel survey of 2300 employees cited in “What Kind of Math Matters” Education Week, June 12 2007
2. Carnevale & Desrochers cited in “What Kind of Math Matters” Education Week, June 12 2007

What Employers Really Need

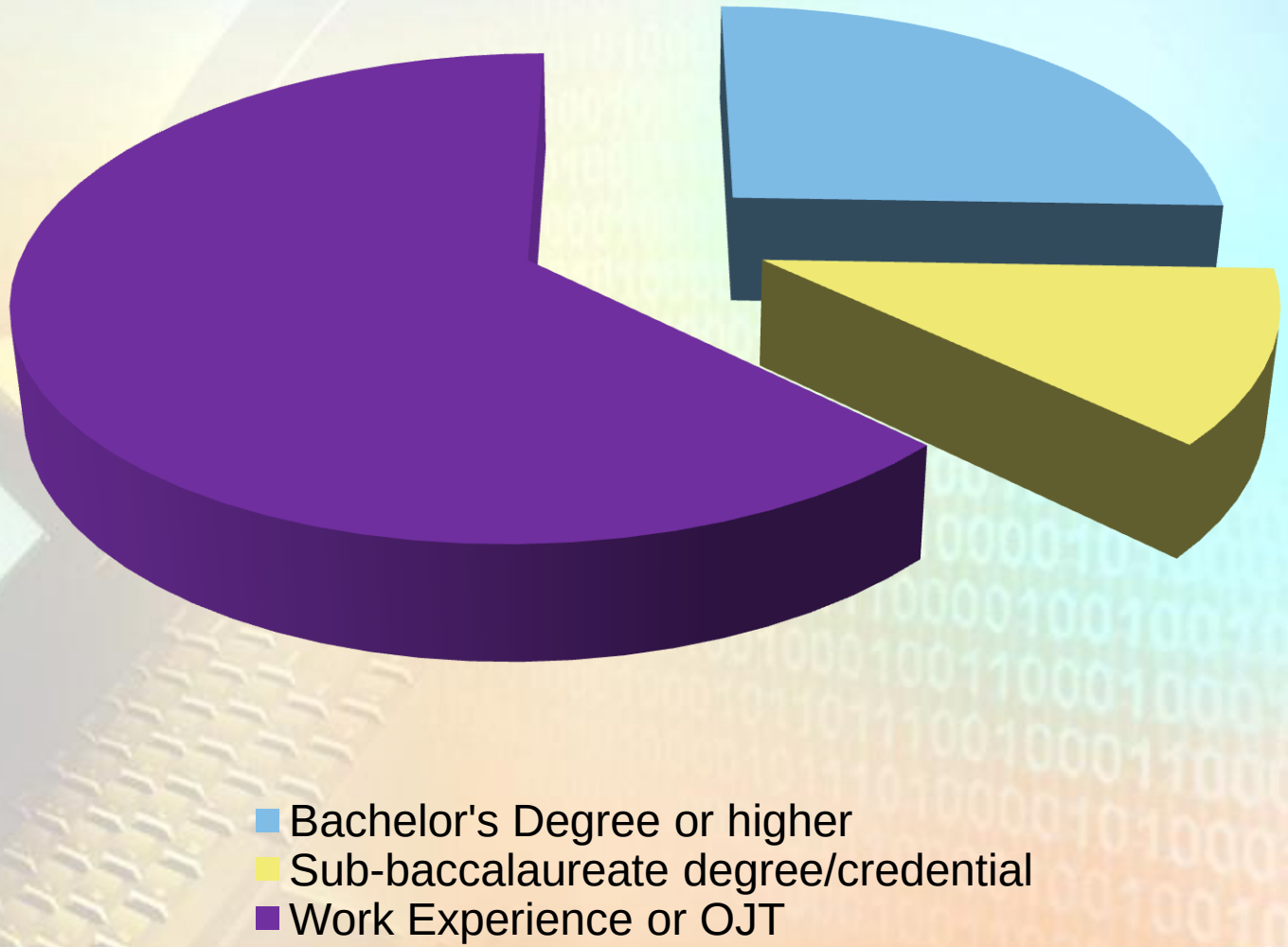
Why are 21st century skills so important?

- What skills are most important for job success when hiring a high school graduate?

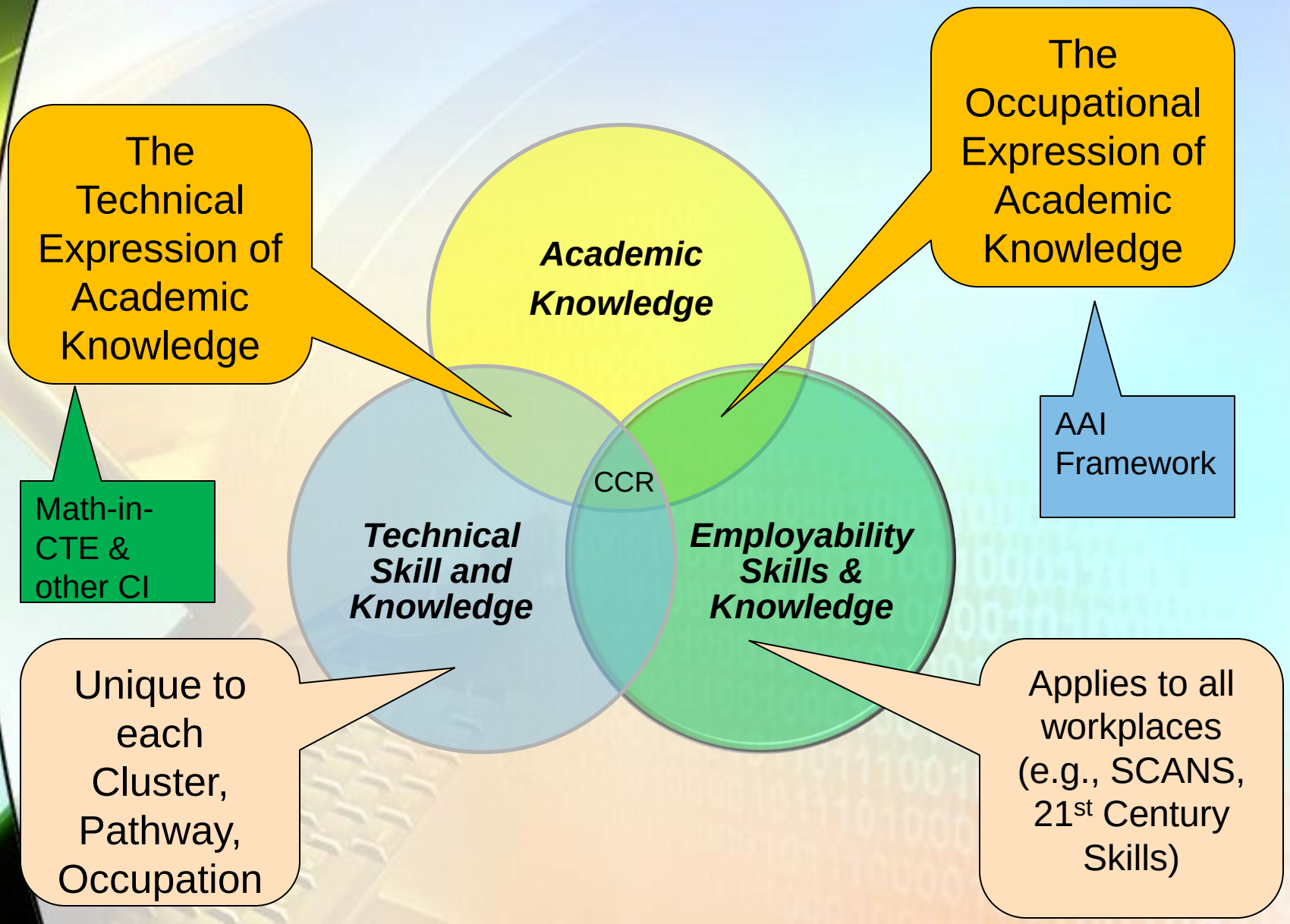
Work Ethic	80%
Collaboration	75%
Good Communication	70%
Social Responsibility	63%
Critical Thinking & Problem Solving	58%

Labor Market Skill Distribution – 2016 (Source: Bureau of Labor Statistics)

PS “academic credentials” (BLS Projections – 2018)



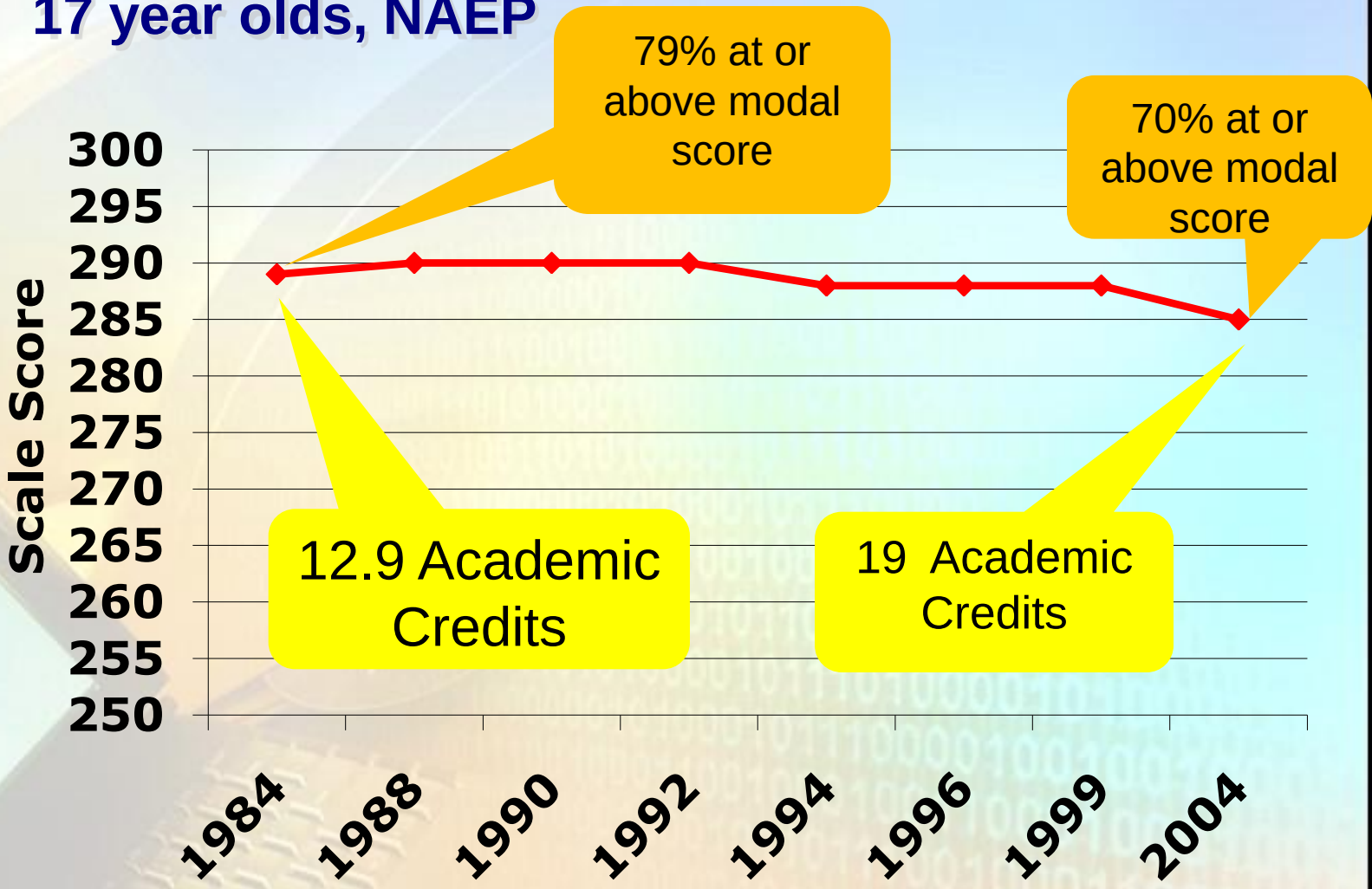
Work and College Ready: Skills



The real challenges of education reform are:

- ***Engagement*** – attending school and completing (graduating) high school
- ***Achievement*** – academic (and technical) course taking; grades, test scores
- ***Transition*** – to postsecondary education without the need for remediation; and to the workplace

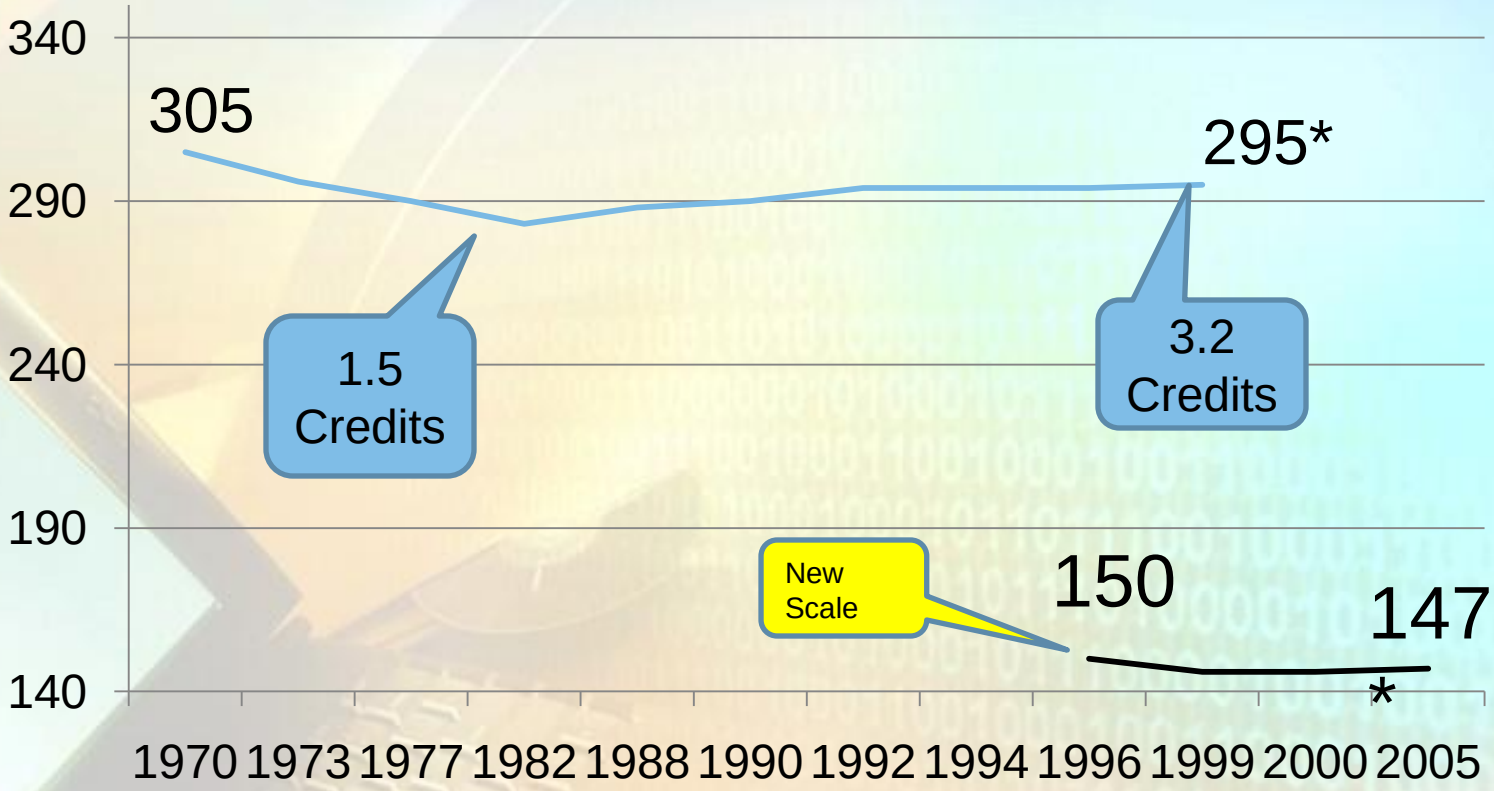
Achievement Flat or Declining in Reading, 17 year olds, NAEP



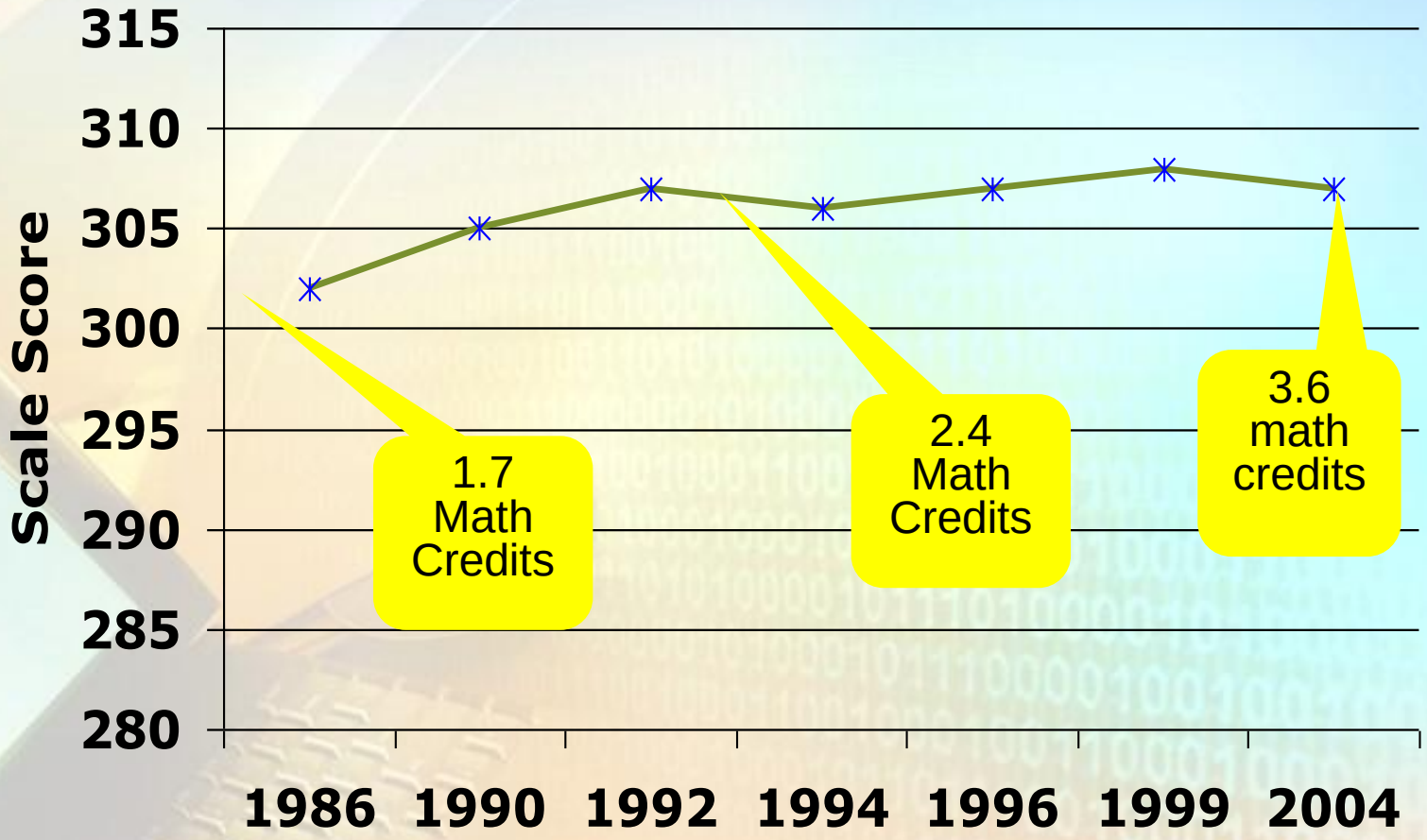
Note: Long-Term Trends NAEP

Source: NAEP 2004 Trends in Academic Progress.

NAEP Science Scores – High School

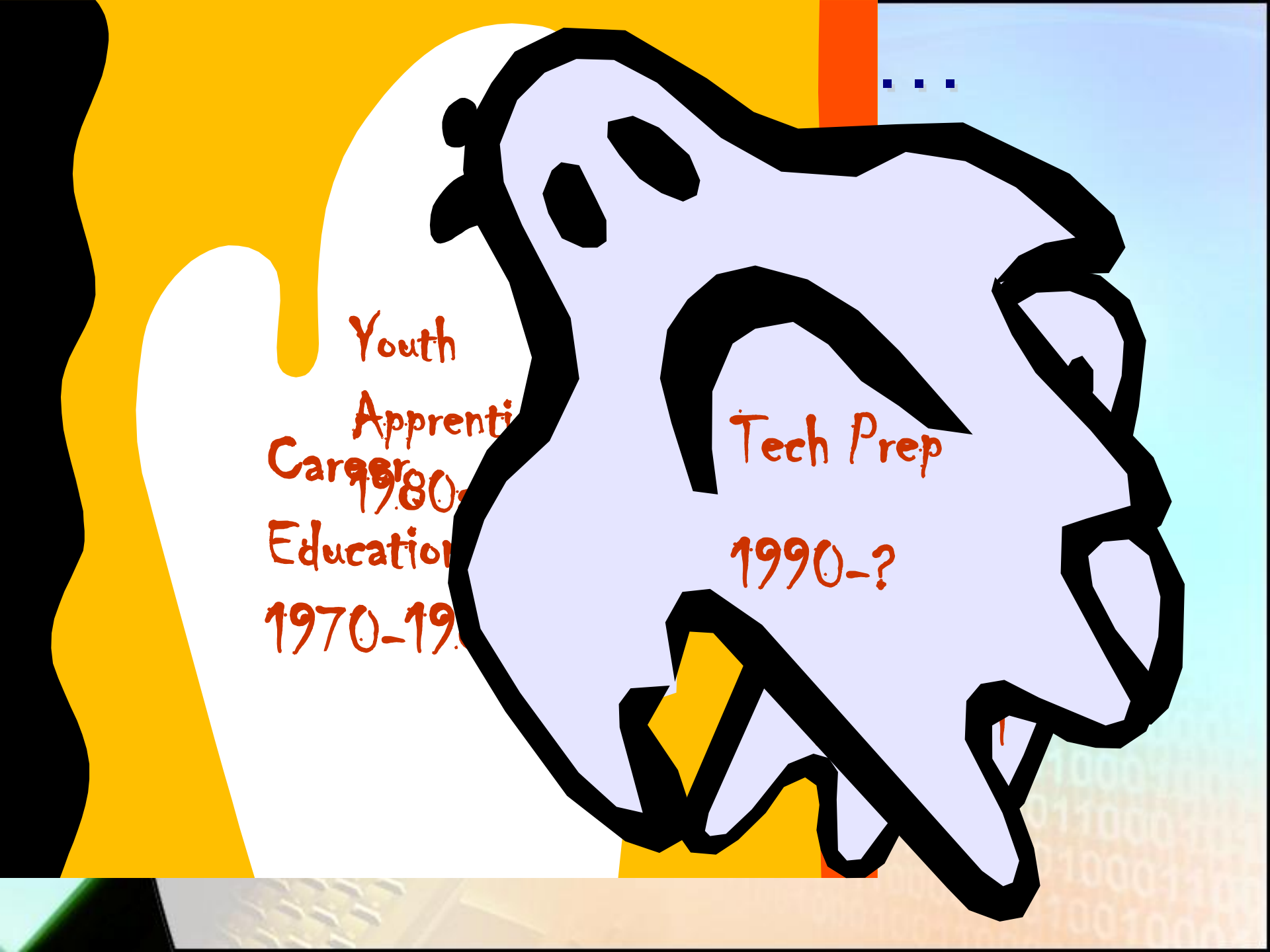


HS Achievement In Math



Note: Long-Term Trends NAEP

Source: NAEP 2004 Trends in Academic Progress and NAEP 1999 Trends in Academic Progress.


Youth
Apprenti
Career
1980
Educatio
1970-19
Tech Prep
1990-?

Programs of Study: A Strategy

Include . . .

- *coherent and rigorous content*
- *aligned with challenging academic standards*
- *and relevant career and technical content*
- *in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education*
- May include dual enrollment

Programs of Study – Goal

Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Programs of Study: Preliminary Findings from the Field

Programs of Study-Research Agenda

- *Personal Pathways to Success*: A longitudinal study of three cohorts in SC (6th, 9th, 11th graders) in three diverse WIAs
- *Mature POS*: A backward mapping study of three sites with 15 years of history of POS-like programs
- *Rigorous Test of POS*: A random assignment or propensity match study in five sites
- *Implementing Green POS:* An "R&D" implementation effort in 5 states focusing on "Green" Programs of Study

NRCCTE POS TEAM

- Corinne Alfeld, Sharika Bhattacharya (AED)
- Marisa Castellano, Kirsten Sundell (University of Louisville)
- Cathy Hammond, Sam Drew, Cairen Withington, Julia Sharp, Catherine Mobley (Clemson University)
- Sam Stringfield, Natalie Kosine Stipanovic (University of Louisville)
- Ivan Charner (AED)

Mature Programs of Study

Purpose: To identify components and processes important in successful development and implementation of POS

- 8 recommended sites “scouted” (site visits)
- 3 mature sites selected for longitudinal study
- Interviews, focus groups, student surveys, transcripts
- Case studies, “backwards mapping” of POS

Findings from Initial Site Visits

- Colleges play a key leadership role in creating POS with ***dedicated staff*** to work with local high schools
- ***Active advisory committees*** (HS, PS, local business) are essential
- Dual credit should be ***transcripted automatically*** at the college
- High school ***guidance counselors need more information*** about POS to pass on to parents and students
- Often a disconnect between ***POS on paper vs. in practice***

Students say . . .

Most of high school juniors and seniors who responded to the survey:

- plan to go to at least a 2-year college
- were satisfied with the help they received in planning their courses and with the POS courses offered at their school
- agreed or strongly agreed that being in a POS made them more engaged in school and career preparation

On the other hand…

Even in Mature POS, guidance counseling is lacking:

- 68% had never had a conference with their parent(s) and counselor together.
- Three times as many students got advice from their friends than from their guidance counselor in planning their HS courses
- 20% had not had help from anyone in planning their courses

Students say . . .

- Less than half knew whether their courses were offered for dual credit (note: all 3 sites were chosen because they had this option)
- Only 40% had participated in work-based learning; of these, only 1/3 said the WBL was closely related to their career area
- Only one quarter had talked to someone working in the career in which they are interested

And, not necessarily related to career guidance:

- Most seniors surprisingly (?) did not enroll in the affiliated college to continue their POS

Rigorous Test of POS

1) Experimental Design: 3 sites in one large district. District-run lottery assigned students to the POS or control condition.

2) Quasi-Experimental Design: 1 site in another large district. Used propensity score matching to identify comparison group.

Rigorous Tests of POS-1 year later

- Early indicators do not provide evidence of any benefit to students for being in a POS
- 9th grade is full of course requirements, not CTE
- The influence of POS may not yet be discernible because many POS students have not yet taken any CTE courses
- Future data/results will reveal more about the effect of POS

Personal Pathways to Success

2005 Education and Economic Development Act (EEDA)

Contains nearly all of the basic requirements of Perkins IV on POS, plus the following additional elements:

- organization of high school curricula around at least three career clusters per school
- enhanced role for school counselors
- extra assistance for high-risk students
- evidence-based high school reform
- regional education centers charged with facilitating business-education partnerships
- greater articulation between secondary and postsecondary education

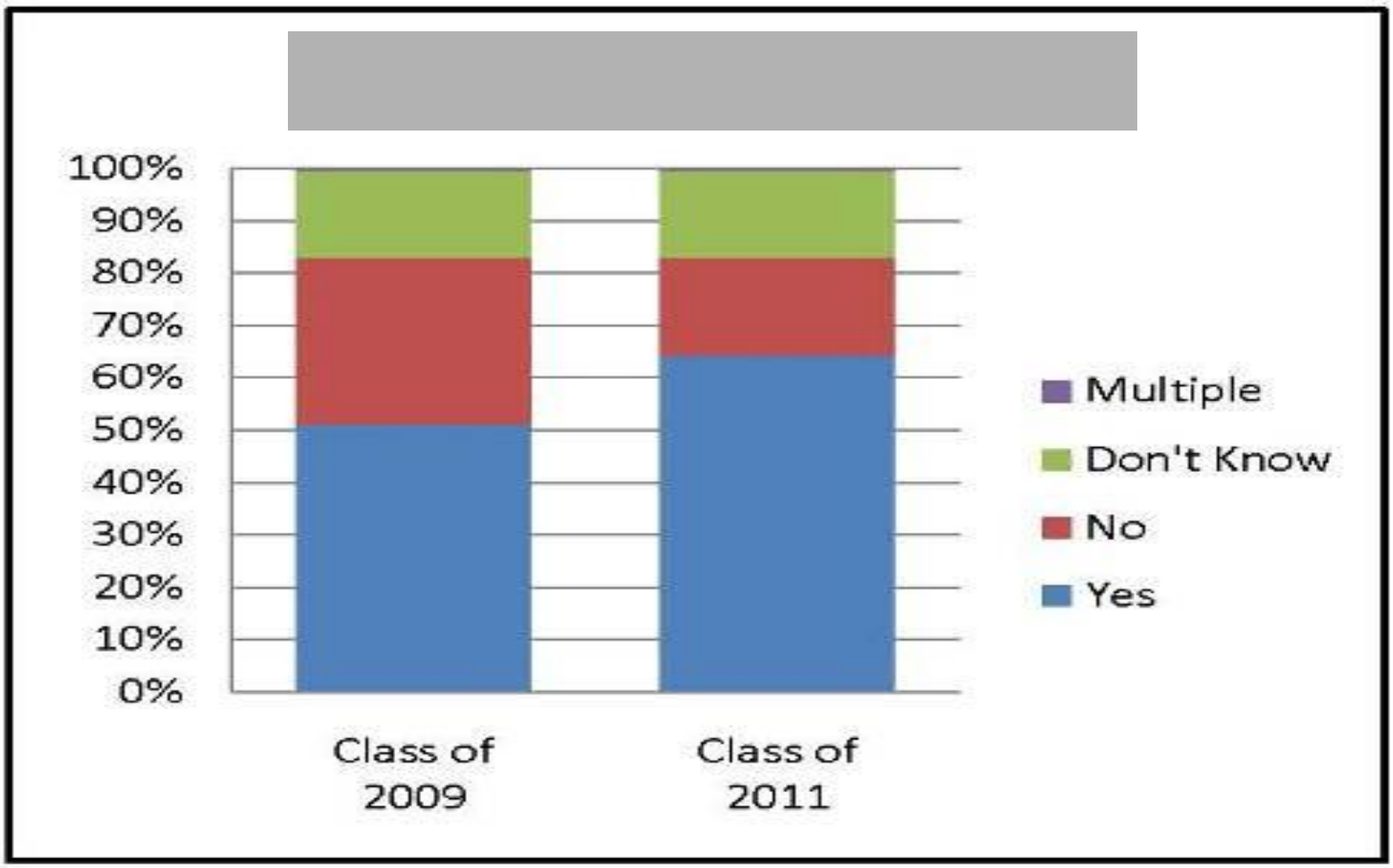
School Sample

8 schools (across 3 WIAs) that vary on:

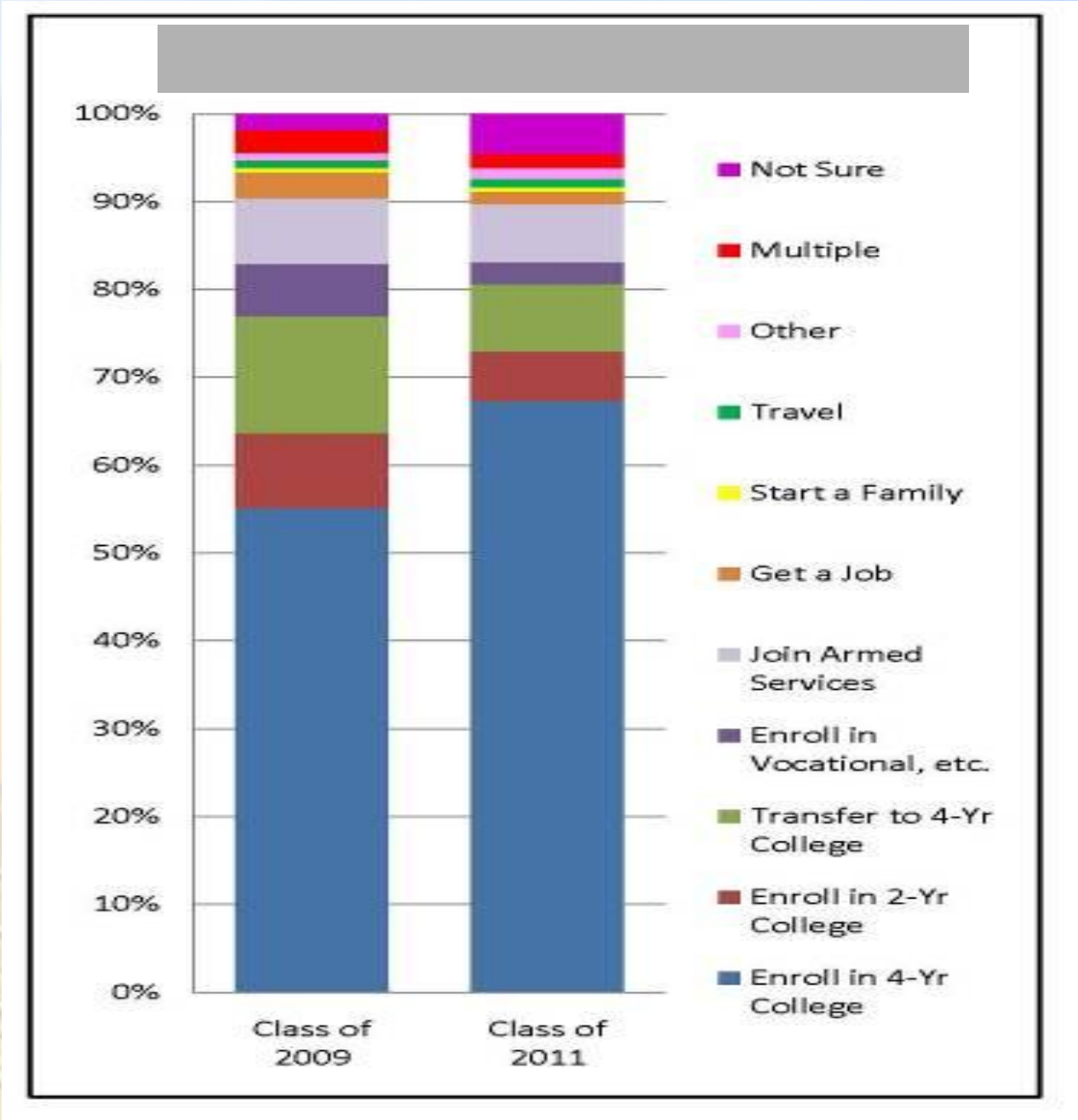
- Level of community resources
- Level of policy implementation
- Demographic characteristics
- School performance outcomes
- Level of whole-school reform implementation

Early Findings:

Have you put together a “career plan” or 4-year “Individual Graduation Plan (IGP)”



Post High School Plans



Preliminary Findings from SC Site Visits

- Mixed school response to pathways model
- Some schools lack resources for policy implementation
- Expense and timing impeding implementation
- Policy influencing career planning
- Anecdotal evidence of early success with improving outcomes
- Inconsistent changes in roles of guidance personnel

Counseling: Preliminary Findings

- School counselors report engaging in more career-focused guidance activities
- Insufficient staff for the increased workload (other job duties haven't changed). Addition of career specialists does not help because they cannot counsel students about or sign off on IGPs.
- Due to the increased demands in the area of career guidance, they report they are less able to meet students' personal/social needs.

Cross-Study Observations

- Alignment of secondary and postsecondary instruction represents a major challenge for POS.
- The integration of academic and technical content was not frequently observed in any site.
- Scheduling, costs, and teacher qualifications represent barriers to offering courses that award postsecondary credit at the high school level.
- Schools recognize the value of industry certification, but some find it difficult to meet standards and cover expenses.

Cross-Study Observations

- Guidance counselors have too many other responsibilities to learn about and guide students in career planning *unless* this is a (funded) mandate.
- Schools with strong business-industry partnerships had better developed POS
- Schools that have been involved in implementing career clusters/pathways appear to be more advanced in implementing POS.

For more information…

Programs of Study Year 2 Joint Technical Report available on NRCCTE's website at

www.nrccte.org

High school is the last education opportunity paid for wholly by the public. It's purpose has to be to do the best it can to provide all who leave it the foundation necessary to enter, or further prepare for, adult life.

Barton, 2006

James R. Stone III

james.stone@nrccte.org

www.nrccte.org

NRC CTE

National Research Center for Career and Technical Education